

FOR DISCUSSION PURPOSES ONLY

NOT FOR ENTRY INTO WRITTEN RECORD

1. (Currently amended) A pattern measuring apparatus comprising:
 - a storage device to store a plurality of physical images of a pattern to be measured and predetermined edge reference data, the predetermined edge reference data comprising a plurality of pixels that have an intensity gradient, ~~the images having been captured by an external imaging device at different focal distances;~~
an external imaging device to capture the physical images at different focal distances;
 - a processor to, for each of the physical images, (i) scan the physical image, using the predetermined edge reference data, to detect edge points of the physical image and (ii) ~~compare the predetermined edge reference data to the intensity values of the physical image at the edge points to generate output~~ a plurality of correlation values, ~~each of the correlation values indicating that indicate correlations~~ a correlation between the edge reference data and the intensity value of the physical image at a respective edge point points;
 - a calculator to, for each of the physical images, calculate a standardized correlation value ~~based on the correlation values of the physical image. the~~ standardized correlation value expressing that expresses a correlation between the predetermined edge reference data and the detected edge points of the physical image, ~~based on the correlation values wherein each of the standardized correlation values corresponds to one of the physical images;~~
 - a determinator to, for each of the physical images, determine an in-focus state of the physical image, based on the standardized correlation value for the physical image;
 - an image selector to select one of the physical images from the plurality of physical images, the determined in-focus state of the selected physical image matching a preselected in-focus state; and
 - a measurer to process the selected physical image to measure the pattern.